

REMARKS

The Office Action dated June 28, 2007 has been carefully considered. Claims 1, 2 and 4 are in this application.

The previously presented claims were rejected under 35 U.S.C. § 103 as obvious in view of previously presented U.S. Patent No. 3,904,652 to Frank in combination with U.S. Patent No. 3,366,648 to Kerr. Applicants respectfully submit that the teachings of these references do not teach or suggest the invention defined by the present claims.

Frank discloses the importance of maintaining an oxygen concentration in the reaction zone below the flammable limit. (See Col. 4, lines 57-60). In the Office Action, the Examiner indicated that it is plausible to the skilled artisan in the art to assume that the Frank's concentration of oxygen is not less than the limiting oxygen concentration. Applicants submit that the skilled artisan using Frank's teaching might lower the oxygen, but there is no teaching or suggestion in Frank to increase the oxygen concentration to a concentration which is not less than the limiting oxygen concentration of oxygen forming an explosion range during starting up of the reactor, as defined by the present claims. Accordingly, the present invention teaches that the oxygen concentration during starting up of the reactor is even higher than the limiting oxygen concentration. In contrast, Frank teaches away from the present invention by teaching that the oxygen concentration is lowered below the flammable limit.

As shown in the submitted Declaration of Harunori Hirao, by using a concentration of oxygen at the inlet to the reactor which is greater than the limiting oxygen concentration the amount of steam consumed and time for start up of the reactor was reduced in comparison to the use of a concentration of oxygen to the reactor which is less than the limiting oxygen concentration as described in Frank.

Further, the Examiner indicated that it is plausible assume that the Frank's or Kerr's concentration of oxygen is not less than the limiting concentration. Kerr teaches avoiding the flammable range by lowering the concentration of the raw material. As described above, Frank teaches avoiding the flammable range by lowering the oxygen concentration of the system. Applicants submit that from the teachings of Frank and Kerr, the skilled artisan might be motivated to lower the oxygen concentration of the system in order or lower the concentration of the raw material to avoid the flammable range but there is no teaching or

suggestion in Frank or Kerr to increase the oxygen concentration to a concentration which is not less than the limiting oxygen concentration of oxygen forming an explosion range during starting up of the reactor, as defined by the present claims.

Applicants submit that the gas composition is changed during starting up of the reactor from an oxygen-rich zone, which is not disclosed or suggested in Frank, to reaching steady state in a raw material-rich zone, which is not disclosed or suggested in Kerr. Accordingly, the invention defined by the present claims is not obvious in view of Frank in combination with Kerr. Dependent claim 2 is believed to be allowable for the same reasons that claim 1 is allowable.

With regard to claim 4, neither Frank nor Kerr teach a method for preparing feed raw material, characterized by supplying the discharged gas obtained at a step of absorption to the reactor thereby causing the concentration of the raw material and the concentration of oxygen to fall in a range in which the concentration of the raw material is less than the concentration of the lower explosion limit of the raw material and the concentration of oxygen is not less than the limiting oxygen concentration corresponding to the lowest concentration of oxygen forming an explosion range. Accordingly, the invention defined by claim 4 is not obvious in view of Frank in combination with Kerr.

The application is now believed to be in a condition for allowance and an early notification thereof is respectfully requested. If the Amendment does not place the case in condition for allowance, Applicant requests that the Examiner contact the undersigned. It is believed no fee is required. The Commissioner is authorized to charge any deficiency or credit any overpayment to Deposit Account No. 13-2165.

Respectfully submitted,

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